

**Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

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| In the Matter of |) | |
| |) | |
| Preserving the Open Internet |) | GN Docket No. 09-191 |
| |) | |
| Broadband Industry Practices |) | WC Docket No. 07-52 |

COMMENTS OF PAETEC HOLDING CORP.

Mark C. Del Bianco
Law Office of Mark C. Del Bianco
3929 Washington St.
Kensington, MD 20895
Tel: 301-933-7216
mark@markdelbianco.com

William Haas
Vice President, Public Policy and
Regulatory
PAETEC
1 Martha's Way
Hiawatha, Iowa 52233
Tel: 319-790-7295
William.Haas@PAETEC.com

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PAETEC Holding Corp., on behalf of its operating subsidiaries, PAETEC Communications, Inc., US LEC, and McLeodUSA Telecommunications Services, Inc. (jointly referred to as “PAETEC”) files its response to the Commission’s notice of proposed rulemaking in *In the Matter of Preserving the Open Internet Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52 (rel. Oct. 22, 2009) (“*Open Internet NPRM*”).

SUMMARY

PAETEC wears a variety of hats in the open Internet or net neutrality debate. It is a purchaser and a provider of broadband Internet access services, a provider of managed broadband services to its customers, and a provider of peering and transit services, and a purchaser of transit services, for Internet access traffic. In drafting these comments, PAETEC has taken into account its experience in each of these roles and has of necessity had to balance its potentially conflicting business interests. As a result, PAETEC’s positions on the proposed rules are nuanced and merit serious consideration from the Commission.

Each of the six substantive rules proposed by the Commission (Sections 8.5-8.15) should be adopted, albeit some require modification or clarification. PAETEC has followed policies

analogous to the original Four Internet Freedoms since it began operations, and it supports their codification. Each of those four rules supports the Commission's goals of protecting consumers, encouraging innovation and investment, and promoting competition, user empowerment, speech, and democratic participation. Codifying the rules will help establish clear and enforceable requirements for network operators and rules of the road for the content, applications and service providers and customers who use their networks, while leaving the Commission adequate flexibility to consider particular circumstances on a case by case basis.

PAETEC also supports adoption of modified versions of the two new proposed rules providing for nondiscrimination and transparency. The transparency requirement is probably the key provision in the proposed rules for competing service providers such as PAETEC. Providers need to know if a competitor with whom they are exchanging Internet access traffic is slowing, degrading or blocking service or particular types of traffic to the provider, its customers or their websites. As for the proposed nondiscrimination rule, it should be amended in two major aspects. First, it should be clarified to provide that "nondiscrimination" is measured not just horizontally (i.e., against the treatment received by other third party service providers), but also vertically (i.e., against the quality of service that the network owner is providing to itself, its affiliates and its retail customers). Second, the standard applied within that framework should be an "unjust or unreasonable discrimination" standard such as that imposed on common carriers in Section 202(a) of the Communications Act.

The Commission should refrain at this time from regulating the ability of network owners to charge CASPs for prioritized services. The Commission should monitor the situation, but should only take action if the evidence warrants. Network operators should remain free to develop alternative revenue streams and explore two-sided business models.

The proposed definition of “reasonable network management” should be amended to provide necessary clarity and specificity. The rules should require that, in order to be considered reasonable, any network management practice must first be disclosed by the broadband Internet access provider to the affected parties, whether wholesale service providers or retail customers, or both. In addition, the principle purpose of the disclosed network management practice must be permissible and its effect must be proportionate to the claimed harm. The Commission should clearly lay out a few examples of proper and improper network management practices and a process for determining generally what practices are acceptable.

The Commission should give short shrift to theoretical arguments that network neutrality rules may deter broadband internet access providers from investing in their networks. There are numerous data points demonstrating that, in the real world, operating under net neutrality rules has at worst no impact on broadband network investment and more than likely has a positive effect on such investment. In contrast, the failure to adopt the proposed rules will likely lead to reduced investment not only in network buildout by the non-RBOC and non-MSO broadband network owners such as PAETEC, but also in the truly innovative edge industries that have generated much of the growth in the U.S. economy over the last decade.

The Commission should not address, or apply the net neutrality rules to, managed or specialized IP-based services at this time. A continued hands-off policy by the Commission will allow broadband service providers to develop new and innovative technologies and business models and will further the goals of innovation, investment, competition, and consumer choice. If future developments suggest that it is necessary to address managed services in order to safeguard the open Internet, both retail customers and competitors such as PAETEC will have incentives to bring this need to the Commission’s attention.

Finally, the proposed rules (amended as suggested below) should be applied to all providers of broadband Internet access service, including those using broadband wireless technology. The rules should be applied immediately to fixed wireless services on the same basis as to wireline network providers. However, it is too early to establish anything other than broad parameters for reasonable network management on the access portion of mobile broadband networks.

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I. Introduction

PAETEC is one of the nation's largest providers of competitive communications services and solutions, with revenues in excess of \$1.5 billion in 2009. PAETEC's primary business is providing large, medium-sized and, to a lesser extent, small business end-user customers in metropolitan areas with a package of integrated communications services that includes local and long distance voice, data, and broadband Internet access services.

A. PAETEC's Network

Prior to its acquisition of McLeodUSA Incorporated ("McLeodUSA") in 2008, PAETEC served customers in 24 states and the District of Columbia. With the acquisition of McLeodUSA, PAETEC has been able to extend its geographic service coverage with the addition of a large facilities-based network covering portions of 20 states, 18 of which PAETEC did not previously serve, in the Midwest, Rocky Mountain, Southwest and Northwest regions of the United States.

As of March 1, 2009, PAETEC's fiber backbone network spanned approximately 13,400 intercity and 5,700 metropolitan local route miles and encompassed approximately 1,000,000 intercity backbone fiber miles and 550,000 fiber miles of metropolitan local fiber optic cable. PAETEC primarily leases fiber backbone facilities between locations where it does not operate its own fiber network.

As of the same date, PAETEC operated 120 switching facilities that provide traditional voice and Internet Protocol ("IP") capabilities. As of September 30, 2009, PAETEC had in service 225,675 digital T1 transmission lines, which represented the equivalent of 5,416,200 voice access lines, for over 46,000 business customers in a service area encompassing 84 of the country's top 100 metropolitan statistical areas.

PAETEC primarily connects its customers to its network by leasing special access digital T1 transmission lines. PAETEC supplements its use of special access lines with unbundled high capacity loops (“UNE digital T1s”). Both types of access lines provide a dedicated connection between customer locations and PAETEC’s network and switches. PAETEC obtains almost all of these digital transmission lines from the major regional incumbent local exchange carriers (“ILECs”) - AT&T Inc., Verizon Communications, Qwest Corporation and Embarq Corporation. PAETEC also has relationships with competitive providers to supply alternative types of last mile connectivity to certain locations. PAETEC’s strategy traditionally has been to form relationships with multiple providers of last mile access to the limited number of locations where alternative facilities are available.

PAETEC’s acquisition of McLeodUSA has also enabled it to provide direct access to a limited number of buildings using its own last mile facilities. These PAETEC-owned facilities are capable of providing up to 1 gigabit Ethernet managed services to the customers located in those buildings, as well as services via digital system cross-connect frame (“DSX”) and very high capacity optical carrier (“OC-n”) lines. In addition, through its subsidiary MPX, Inc., PAETEC can provide direct wireless last mile access using a variety of speeds over wireless spectrum at the DS-x, the OC-x, or the 10, 100 or 1,000 Mb/s Ethernet levels.

B. PAETEC’s Network Services

PAETEC delivers integrated communications services, including local and long distance voice, data and Internet access services, to end users on a retail basis. PAETEC refers to these as its “network services.” PAETEC derived approximately 79% of its total revenue for 2008 from its network services.

Unlike many competitive carriers, the provision of residential services is not a material part of PAETEC's business. Although PAETEC's existing base of residential customers increased as a result of the McLeodUSA acquisition and it expects to continue to support that base, PAETEC does not actively market residential services to new customers.

PAETEC offers its end user customers the following broadband Internet connectivity and other networking services that relate to its core network business:

- High-speed dedicated Internet access services. PAETEC offers integrated voice and Internet access over a single digital transmission line. PAETEC also offers its high-volume Internet access customers a specialized Internet access service that provides very high speed Internet access.
- Virtual private network services. Virtual private networks, or VPNs, are networks that typically link multiple customer locations by using computer software to dedicate circuits solely for the customer's use, instead of building a physical circuit to each customer location. PAETEC offers VPN services to businesses seeking a cost-effective means of creating their own secure networks for communicating and conducting business with their employees, customers and suppliers. PAETEC's VPN services are discussed in more detail below.
- Internet security services. To supplement its Internet access services, PAETEC offers data encryption services and electronic message screening services on a resale basis to customers that seek to minimize security issues associated with direct Internet access.

- Related Services. PAETEC offers its customers in some regions the following additional services that relate to its core business:
 - IP traffic classification. PAETEC's service management tools enable customers to classify their IP traffic into tiers for voice, video conferencing, enterprise data and Internet traffic. These tools permit some types of traffic to be prioritized to ensure higher quality during transmission and delivery.
 - Network storage. PAETEC's VPN services provide the company's customers with the ability to store and share files on network-based storage devices. Customers can access their files remotely or via their VPN connection and establish unique privileges on all shared files.
 - PC back-up. PAETEC provides its virtual private network customers with the application-based ability to back up their workstations to PAETEC's network-based storage devices, as well as to restore backed-up files that otherwise might be lost or damaged.
 - Virtual NXX. PAETEC also offers its business customers a remote office feature that enables them to place calls from any location but appear to be calling from their offices, as well as a simultaneous ring feature that provides customers with the ability to have their calls ring at multiple locations, affording customers greater flexibility than traditional call forwarding.

C. PAETEC's Integrated Solutions

PAETEC offers a variety of customized services that help customers build and operate their own voice and data networks. PAETEC derives revenue from sales to retail end-user customers of telecommunications equipment and software and related services, which the company refers to as its "integrated solutions." These customized services enhance customer retention and frequently represent a decisive factor for customers that choose PAETEC over its competitors for the provision of network services. PAETEC derived approximately 4% of its total revenue for 2008 from its integrated solutions.

D. PAETEC's Billing and Customer Care Services

PAETEC provides billing and customer care services for the telecommunications resale programs of universities. As part of these services, PAETEC manages, monitors and tracks the usage of high-speed communications services, including high-speed Internet access and enhanced voice and video services, at universities and private student housing complexes.

E. PAETEC's Carrier Services

PAETEC also provides wholesale voice and data carrier services to other communications providers and to larger-scale purchasers of network capacity. In addition to large institutions and enterprises, PAETEC's carrier services customers include communications companies that resell PAETEC's local and long distance services, interactive voice response providers, Voice over Internet Protocol ("VoIP") providers, other competitive carriers, wireless service providers, web services providers and Internet service providers. PAETEC derived approximately 17% of its total revenue for 2008 from its carrier services.

PAETEC's carrier services revenue consists primarily of monthly recurring fees and usage-based fees. Usage-based carrier services fees are primarily (i) the interstate and intrastate

access fees that PAETEC receives from other service providers when it originates or terminates long distance calls for those other providers to or from PAETEC's customers, and (ii) the reciprocal compensation fees PAETEC receives from some other local carriers when it terminates to its customers local calls made by customers of other local carriers. None of PAETEC's carrier services revenues are derived from prioritizing IP traffic, either for carriers or for content or applications providers.

PAETEC offers the following services to its carrier services customers:

- dedicated local services (including primary rate interface or PRI services), that provide high capacity local service for carrier access services, such as dial-up Internet access and VoIP services;
- local voice and related enabling services, such as digital loop carrier services and local switching services;
- long distance network services;
- origination, including toll-free origination, for competitive local providers and other carriers;
- end user multiprotocol label switching ("MPLS") aggregation services that provide secure IP communications connections between single or multiple network points of presence ("POPs") on the carrier's network;
- local access to Internet service providers;
- high-speed Internet connectivity for Internet service providers and web services applications;
- IP transit services that provide global routing;

- physical fiber circuitry without electronics (“dark fiber”); and
- collocation services in which the customer’s equipment is installed in PAETEC’s network equipment centers.

II. The Original Four Internet Freedoms Should be Codified

Sections 8.5-8.11 of the proposed rules would codify and clarify the “Four Internet Freedoms” that the FCC first announced in 2005, and which have guided its case-by-case enforcement since then. Under these principles, as set forth in proposed §§ 8.5-8.11, a provider of broadband Internet access service may not

- (i) prevent any of its users from sending or receiving the lawful content of the user’s choice over the Internet;
- (ii) prevent any of its users from running the lawful applications or using the lawful services of the user’s choice;
- (iii) prevent any of its users from connecting to and using on its network the user’s choice of lawful devices that do not harm the network; or
- (iv) deprive any of its users of the user’s entitlement to competition among network providers, application providers, service providers, and content providers.¹

PAETEC has followed policies analogous to these four principles since it began operations, and it supports the Commission’s proposal to codify the original four principles at this level of generality. Each of these four rules supports the Commission’s goals of protecting consumers, encouraging innovation and investment, and promoting competition, user empowerment, speech, and democratic participation. Codifying the rules will help establish clear and enforceable requirements for network operators and rules of the road for the content, applications and service providers and customers who use their networks, while leaving the Commission adequate flexibility to consider particular circumstances on a case by case basis.

¹ *Open Internet NPRM*, at para. 92.

PAETEC also supports the codification of these principles as obligations of particular network entities, rather than just as principles of “customer entitlement.” Applying the proposed rules to particular network entities provides certainty to all Internet participants as to what to expect and who bears responsibility for what types of actions. As discussed in more detail in Section V below, this regulatory certainly will benefit the great majority of Internet participants by improving and clarifying the investment atmosphere and the growth opportunities for innovative, non-incumbent service providers and edge participants.

There should be no real debate about the first principle (§8.5), which ensures that users are in control of the content that they send and receive. However, only if this right is codified can users be assured that they will be able to take full advantage of the extraordinary economic, social and political opportunities created by the Internet.² Moreover, this requirement becomes even more critical if cross-industry convergence progresses further. For instance, if a large provider of content becomes affiliated with a particular network operator, the end user customers of that network provider should continue to have the freedom to access content from unaffiliated content providers on the same terms and conditions as the network provider provides its affiliated content. Likewise, end user customers of other network operators should be able to access the content of the affiliated entity on the same terms and conditions.

A similar or identical principle has been adopted by regulators and/or internet access provider trade groups in other countries. For example, the Norwegian Post and Telecommunications Authority (“NPT”), that country’s telecom regulatory agency, has issued

² See, e.g., Lowell McAdam, “Finding Common Ground on an Open Internet,” at <http://googlepublicpolicy.blogspot.com/2009/10/finding-common-ground-on-open-internet.html>.

non-binding guidelines that specifically provide that “Internet users are entitled to an Internet connection that enables them to . . . send and receive content of their choice . . .”³

The second principle, which is codified in §8.7 and protects the ability of consumers to run applications and use services of their choice, should be equally inarguable. Again, this principle is already followed by most broadband Internet access providers, and a similar or identical principle has been adopted in other countries. The Norwegian Net Neutrality Guidelines, which are based in part on the Commission’s original Four Internet Freedoms, provide that Internet users “are entitled . . . to use services and run applications of their choice.”⁴

The third principle is codified in §8.9 and allows users to connect their choice of legal devices that do not harm the network. This principle, too, is widely accepted. Customers’ ability to connect any non-harmful device to the network has long been the general rule on telco wireline networks under the 1967 *Carterfone* decision and its progeny.⁵ PAETEC and the CLECs that it is familiar with have incorporated this principle in the operation of their networks

³ Norwegian Post and Telecommunications Authority, *Network Neutrality: Guidelines for Internet neutrality* (Feb. 24, 2009) (“*Norwegian Net Neutrality Guidelines*”), at 2, available at <http://www.npt.no/ikbViewer/Content/109604/Guidelines%20for%20network%20neutrality.pdf>.

⁴ Id. at 2; see also Japan Internet Providers Association, Telecommunications Carriers Association, Telecom Services Association, Japan Cable and Telecommunications Association, *Guideline for Packet Shaping* (May 2008), (“*Japanese Net Neutrality Guideline*”) available at http://www.jaipa.or.jp/other/bandwidth/guidelines_e.pdf. The Guideline is not an interpretation of judicial precedents or application of laws and regulations by government institutions, but was voluntarily formulated and implemented by organizations of telecommunications. The Guideline is not legally binding; the individual carriers and service providers decide whether to follow it.

⁵ See *Use of the Carterfone Device in Message Toll Telephone Service*; *Thomas F. Carter and Carter Electronics Corp., Dallas, Tex. (Complainants), v. American Telephone and Telegraph Co., Associated Bell System Companies, Southwestern Bell Telephone Co., and General Telephone Co. of the Southwest (Defendants)*, Docket Nos. 16942, 17073, Decision, 13 FCC 2d 420, 424 (1968), *recon. denied*, 14 FCC 2d 571 (1968) (*Carterfone*); *Proposals for New or Revised Classes of Interstate and Foreign Message Toll Telephone Service (MTS) and Wide Area Telephone Service (WATS)*, Docket No. 19528, First Report and Order, 56 FCC 2d 593, 599, para. 17, 612–13, paras. 53–54 (1975); and *Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry)*, Docket No. 20828, Final Decision, 77 FCC 2d 384, 388 (1980) (*Computer II Final Decision*) (subsequent history omitted).

since inception.⁶ PAETEC urges the Commission to adopt the rule and extend the principle to other service providers and networks that offer broadband internet access.

The fourth principle in the original *Internet Policy Statement*, now codified in proposed §8.11, protects competition among network providers, application and service providers, and content providers. This fourth principle is appropriate for codification as a rule because the other three rules do not adequately achieve the fourth principle's purposes. Specifically, the first three rules are phrased in terms of prohibiting broadband access providers from "preventing" certain conduct by their *network users*. While the conduct prohibited by each of the first three rules can be anti-competitive, none of those rules address anti-competitive conduct by broadband access providers that involves slowing or degrading service to or from a different service provider or a particular site, application or device type.

The fourth rule should be amended to clarify that it applies not just to end user customers, but also to the traffic of interconnected service providers and other wholesale customers who also use the network. Specifically, the language of §8.11 should be changed to provide that a broadband access provider cannot "deprive ***any user of its network (including peering and wholesale users)*** of the user's entitlement to ***fair and open*** competition among network providers, application providers, service providers, and content providers." This language change would make it clear that the fourth principle addresses such unfair practices as the undisclosed delaying or impeding of competing service providers' traffic or service, and thus that it complements the principles of nondiscrimination and transparency set out in the fifth and sixth proposed rules.

⁶ The *Norwegian Net Neutrality Guidelines* provide that Internet users are entitled to "connect hardware and use software of their choice that do not harm the network." Id. at 3.

The Commission should affirm that the principles in proposed §§8.5-8.11 apply to all providers of broadband Internet access service, regardless of the network technology over which the service is delivered.⁷ For the reasons set forth in Section VIII below, they should apply to wireline networks (including those operated by cable companies) and wireless networks alike.

Finally, the Commission should confirm its tentative conclusion not to define the term “content, application, or service provider” (“CASP”) at this time.⁸ Any definition of a CASP could at best be illustrative because of the inevitable fluidity in future technology and service offerings over the Internet. A rigid definition may miss or fail to provide protection to new forms of services, applications or service providers.

III. The Commission Should Adopt a Modified Nondiscrimination Rule

Under the proposed §8.13, a provider of broadband Internet access service would have to “treat lawful content, applications, and services in a nondiscriminatory manner.”

This proposed rule should be amended in two ways. First, it should be clarified to provide that any discrimination is measured not just against treatment received by other third party service providers using the network, but also against the quality of service that the network owner is providing to itself, its affiliates and its retail customers (or customers of its affiliated entities). To qualify as nondiscriminatory, the service received by competitors must be at least equal in quality to the services that the network owner is providing to itself or to any subsidiary, affiliate or retail customer. This concept of a framework for nondiscrimination with both a horizontal and a vertical (or “equal access”) component is familiar to the Commission and to

⁷ The proposed rules should not apply to dial-up Internet access service since that market is of diminishing commercial importance and Title II regulation still applies to the telecommunications component of dial up access service.

⁸ *Open Internet NPRM* at para. 99.

Congress. It is the foundation, for example, of the *Computer III* Open Network Architecture and Comparably Efficient Interconnection rules,⁹ and it underpins Section 251(c)(2) of the Telecommunications Act of 1996.¹⁰

Second, the standard applied within that framework should not be an absolute nondiscrimination standard such as that in Section 251(c)(2). Rather, it should be an “unjust or unreasonable discrimination” standard such as that imposed on common carriers in Section 202(a) of the Communications Act. Therefore, the language of proposed §8.13 should be modified to provide: “Subject to reasonable network management, a provider of broadband Internet access service shall not discriminate unjustly or unreasonably between lawful content, applications, and services provided over or transiting its network.” Because the nondiscrimination rule will be subject to an exception for reasonable network management, PAETEC is confident that network operators will have the necessary freedom to manage their networks in a manner consistent with the preservation of the free and open Internet.

When combined with a strong rule providing for transparency (see Section VII below), this nondiscrimination rule should lead to public disclosure (and hopefully cessation) of most unreasonable network management practices and at least minimize the need for frequent Commission involvement in individual cases of potential violation of the net neutrality rules.

PAETEC’s position on this issue is simple: all Internet traffic destined to or originating from endpoints outside the network of a broadband Internet access provider should be treated

⁹ See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket Nos. 02-33, 95-20, 98-10, 01-337, WC Docket Nos. 04-242, 05-271, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005) (*Wireline Broadband Order*) at paras. 27–28 (describing the CEI and ONA requirements), *aff’d*, *Time Warner Telecom, Inc. v. FCC*, 507 F.3d 205 (3d Cir. 2007).

¹⁰ See 47 U.S.C. §251(c)(2); see also PETER W. HUBER ET AL., *FEDERAL TELECOMMUNICATIONS LAW* 490-495 (2nd ed. 1999) and *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 96-325, First Report and Order, 11 FCC Rcd.15499 (1996) at ¶ 218 (where the Commission concluded that the nondiscrimination standard was the same “throughout Section 251”).

fairly and with equivalence, using normal practices that the provider maintains for or applies to its own traffic. Another carrier's traffic should not be given less desirable paths based on hop counts, available bandwidth or other factors that might make a route across a carrier's network less desirable than that of the provider's own traffic to the same or similar destinations. To facilitate enforcement and dispute resolution, the Commission may want to consider requiring, or at least strongly encouraging, providers to maintain and disclose performance information (in an industry standard format) for key performance indicators such as average latency across the network, jitter, QOS statistics, and other packet delivery metrics.

The nondiscrimination rule should be applied to a broadband Internet access provider's entire network. In most cases, this will amount to a focus on that portion of the connection between a subscriber location and the public Internet access point, where the broadband Internet access provider may have the ability and the incentive to favor or disfavor traffic destined for its end-user customers. Nonetheless, if the rule is applied only to physical bottleneck facilities, such as Internet peering points or the last mile, large network owners can create "virtual bottlenecks" through routing algorithms or other network management practices. An example would be a network with a strict caching policy for all traffic that would create an automatic 100 ms delay for all traffic. Combined with regular network latency, this practice could create unacceptable quality on real-time interactive, latency-sensitive applications, such as VoIP. The network owner could exploit this fact either by prioritizing only its own traffic, by publicizing the "slowness" of the network of its competitors whose traffic is affected by the caching, or by offering for a fee a prioritized VOIP service. The effect would be the same no matter where or how in the network this bottleneck was created.

The costs of this proposed nondiscrimination rule, both in the near-term and long-term, will be small. PAETEC and the competitive carriers with which it is familiar already follow the rule, so the rule would impose no additional cost on them. On the other hand, the benefits of the rule will be large, but not necessarily calculable. The lack of a nondiscrimination rule could discourage anyone other than the large network owners from innovation in or development of certain types of content, applications, or services.

PAETEC submits that there is a practical difference between permitting operators to manage their networks to assure quality of service to particular types of traffic—e.g., all VoIP traffic—and the offering of such management to customers or CASPs for a fee or other consideration. For example, PAETEC operates the public Internet portion of its network on a best efforts basis, with the exception that it generally prioritizes the VoIP and video traffic that it identifies, regardless of origin or destination. PAETEC generally provides no other traffic shaping or discrimination for itself or its customers on the public Internet portion of its network. PAETEC does not charge content, application, and service providers for prioritization of traffic today, and currently has no plans to begin imposing any such charges.

The Commission should confirm that PAETEC's practice is acceptable. A broadband Internet access provider should be able to protect the quality of service ("QOS") for those applications for which QOS is important by prioritizing classes of latency-sensitive traffic over classes of latency-insensitive, as long as it does so on a nondiscriminatory basis and discloses the practice. Such a rule would not be difficult to implement in a competitively fair manner and it would not undermine the benefits of the nondiscrimination rule.

PAETEC does not know if a rule prohibiting broadband Internet access providers from charging CASPs fees for prioritized services would be likely to result in higher social welfare

than would result if there were no constraints on such fees.¹¹ Nor does PAETEC have evidence as to what the effects of such a prohibition would be on future innovation.¹² Frankly, PAETEC doubts that anyone has evidence that answers either of these questions.

There is at least a theoretical possibility that allowing network operators to charge CASPs for prioritizing content will result in lower prices to consumers for broadband Internet access.¹³ Therefore, network operators should remain free to develop alternative revenue streams and explore two-sided business models.¹⁴

More importantly, any action by the Commission at this time to prohibit payments by service providers for traffic prioritization could have unintended anti-competitive consequences. As discussed in more detail in Section VII below, the proposed rules should allow facilities-based ISPs to offer managed services that are outside the public Internet and therefore not subject to the net neutrality rules. If at the same time there were a prohibition on service providers paying for traffic prioritization, the largest facilities-based ISPs (e.g., AT&T, Verizon, Comcast, etc.) would have a significant (and unfair) regulatorily-conferred advantage in providing both (i) managed services and (ii) QOS or prioritized services over the public Internet. They would be the only providers who could offer high-capacity, high resolution applications, either entirely on-net or through QOS peering agreements with each other. Because peering

¹¹ *Open Internet NPRM* at para. 112.

¹² *Id.* at para. 113.

¹³ See, e.g., Comments of AT&T Corp., GN Docket No. 09-51, (filed June 8, 2009) at 111 (Prohibiting providers from recovering a portion of their costs from both end users and content, application, and service providers “would have the perverse effect of subjecting consumers to higher broadband rates than they might otherwise pay—an outcome hardly consistent with efforts to promote broadband adoption.”); see also Robin S. Lee & Tim Wu, *Subsidizing Creativity through Network Design: Zero-Pricing and Net Neutrality*, 23 J. OF ECON. PERSPECTIVES 23, 61, 67 (2009) (Lee & Wu, *Subsidizing Creativity*) (“Of course, for a given price level, subsidizing content comes at the expense of *not* subsidizing users, and subsidizing users could also lead to greater consumer adoption of broadband.”)

¹⁴ See, e.g., Jean Charles Rochet & Jean Tirole, *Platform Competition in Two-sided Markets*, 1 J. OF THE EUROPEAN ECON. ASS’N 990 (2003); Mark Armstrong, *Competition in Two-Sided Markets*, 37 RAND J. OF ECON. 668 (2006).

agreements providing for QOS over the public Internet would not involve payment, they would not run afoul of a prohibition on payments. Moreover, the large ISPs would have no incentive to enter into similar agreements with smaller ISPs. If those smaller ISPs were not allowed to buy the prioritization necessary to support their competing applications, the market position of the big facilities-based operators would be cemented. They would be the only providers able to offer such services as “managed services” or as “peered” (but discriminatory) public Internet access services. Indeed, it was analogous concerns about the possibility of anticompetitive activity and “tipping” on the public Internet backbone that led the Commission to require divestiture of MCI’s Internet backbone as a condition of the *WorldCom/MCI Merger Order* and to impose public Internet peering conditions in the *SBC/AT&T*, *Verizon/MCI* and *AT&T/BellSouth Merger Orders*.¹⁵

In light of the potential anti-competitive effects, and the absence of evidence that a problem exists with current practices or that a ban on charging CASPs will have positive effects, the Commission should refrain at this time from regulating the ability of network owners to charge CASPs for prioritized services. The Commission should monitor the situation, but should only take action if the evidence warrants.

Finally, the Commission should clarify that, under whatever rule it adopts, it would not be unjust or unreasonable discrimination for a service provider to charge its own subscribers different prices for different speeds or download capacities of broadband Internet access service.

¹⁵ See *Application of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.*, CC Docket No. 97-211, Memorandum Opinion and Order, 13 FCC Rcd 18025 (1998) at paras. 148-150 (“*WorldCom/MCI Merger Order*”); *SBC Communications, Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Docket No. 05-65, Memorandum Opinion and Order, 20 FCC Rcd 18290 (2005), at Appendix F (“*SBC/AT&T Merger Order*”); *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket No. 05-75, Memorandum Opinion and Order, 20 FCC Rcd 18433 (2005) at Appendix F (“*Verizon/MCI Merger Order*”); *AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, WC Docket No. 06-74, Memorandum Opinion and Order, 22 FCC Rcd 5662 (2007) at Appendix F (“*AT&T/BellSouth Merger Order*”).

IV. The Rules Should Provide Clearer Guidance as to What Constitutes Reasonable Network Management

Each of the proposed rules is subject to an exception for “reasonable network management.” The proposed definition of “reasonable network management” should be amended in several ways to provide necessary clarity and specificity. Section 8.3 defines the term as:

- (a) reasonable practices employed by a provider of broadband Internet access service to:
 - (i) reduce or mitigate the effects of congestion on its network or to address quality-of-service concerns;
 - (ii) address traffic that is unwanted by users or harmful;
 - (iii) prevent the transfer of unlawful content; or
 - (iv) prevent the unlawful transfer of content; and
- (b) other reasonable network management practices.

The first necessary clarification involves the term “quality-of-service concerns” in §8.3(a)(i). The addressing of such concerns may be a reasonable practice, but either the rule or the Commission’s implementing order should make clear that the applicable concerns relate only to the provision of “plain vanilla” broadband Internet access service offered to all customers, and not to managed services that the broadband Internet access provider may also offer for an additional fee.

Second, the phrase “other reasonable network management practices” is too broad (if not tautological) and must be given some definition. The Commission should adopt a standard for reasonable network management that is different from that adopted in the *Comcast Network Management Practices Order*. There, the Commission stated that for a network management practice to be considered reasonable, it “should further a critically important interest and be

narrowly or carefully tailored to serve that interest.”¹⁶ The *Comcast* standard is unnecessarily restrictive in the context of the proposed rule. The standard for reasonableness should be that the practice “furthers a permissible interest and is narrowly tailored to serve that interest, taking into account the economic costs of alternative methods of serving that interest.” PAETEC believes that a “permissible interest” would be an interest related to network management that is specifically recognized in the statute, the rule or the explanatory order. The burden of proof on the issue of reasonableness should be on the broadband Internet access provider implementing the practice.¹⁷

To implement this standard, the rule should require that, in order to be considered reasonable, any network management practice must first be disclosed by the broadband Internet access provider to the affected parties, whether wholesale service providers or retail customers, or both.¹⁸ In addition, either (A) the principle purpose and effect of the disclosed network management practice must be one of the purposes identified in proposed (a)(i)-(iv) or (B) its use for the purpose claimed by the broadband internet access provider must have been approved by a broadly accepted international standards body, such as the Internet Engineering Task Force (“IETF”), or by the Commission in a prior ruling.¹⁹

¹⁶ *Comcast Network Management Practices Order*, 23 FCC Rcd at 13055–56, para. 47.

¹⁷ Compare Canadian Radio-television Telecommunications Commission, *Review of the Internet traffic management practices of Internet service providers*, Telecom Regulatory Policy CRTC 2009-657, File No. 8646-C12-200815400 (Oct. 21, 2009) (“*Canadian ITMP Order*”), available at <http://crtc.gc.ca/eng/archive/2009/2009-657.htm>.

¹⁸ The Commission recognized the importance of such disclosure in the *Comcast Network Management Practices Order*, where it required Comcast to disclose its then-current and future practices so that the Commission and the public could ensure compliance with Comcast’s voluntary commitment to abandon its discriminatory network management practices. *See Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices; Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC’s Internet Policy Statement and Does Not Meet an Exception for “Reasonable Network Management,”* File No. EB-08-IH-1518, WC Docket No. 07-52, Memorandum Opinion and Order, 23 FCC Rcd 13028 (2008) (“*Comcast Network Management Practices Order*”) at 13060, para. 54.

¹⁹ Broadband Internet access providers should not be required to seek a declaratory ruling from the Commission before a practice is actually deployed, but they or others would be free to do so.

To assist competitive service providers such as PAETEC and to provide at least some ring fencing for the practices of the large Internet access providers, the Commission should clearly lay out a few examples of proper and improper network management practices and a process for determining generally what practices are acceptable, while reserving definition of the precise contours of these concepts for future adjudications. For example, the Commission should confirm its tentative conclusions that it would not be reasonable network management to block or degrade VoIP traffic but not other services that similarly affect bandwidth usage and have similar quality-of-service requirements, or to single out any particular content (i.e., viewpoint) for blocking or deprioritization (in the absence of evidence that such traffic or content was harmful or unlawful).²⁰

Any network management practice should be imposed at the smallest/lowest network level possible, or to put it another way, should be proportionate to the identified harm. For example, if a broadband Internet access provider's network is or appears likely to become congested to such a degree that customers' Internet access will be noticeably affected, the broadband Internet access provider may be justified in taking reasonable steps to reduce or mitigate the adverse effects of that congestion or to address quality of service concerns. However, there must be a clear nexus between the congestion and the action taken. For example, cutting off "bandwidth hogs" in periods or locations where there is no congestion should not be a reasonable network management practice. Similarly, congestion commonly occurring on the West Coast from 6-10 p.m. PST would ordinarily not justify taking steps to slow traffic to East Coast customers during the same period.

²⁰ See *Open Internet NPRM* at para. 137.

The same proportionality principle must apply even to measures taken to counter traffic that may be illegal or that is harmful or unwanted by users. In particular, the blocking practices of the larger broadband Internet access providers need to be scrutinized. For example, PAETEC is aware that certain large broadband Internet access providers respond to copyright violation notices from content providers such as the MPAA by blocking IP addresses from which the allegedly infringing activities are originating. In many cases, the blocked address may be the single IP address used by an entire organization, ranging from a small business to a university or a multi-location national financial institution. Because they desire enhanced security (a stronger firewall) or have difficulty getting enough IPv4 addresses, many organizations have moved to having a single IP address (or just a few addresses) and using Network Address Translation (“NAT”) functionality to provide Internet connectivity to their private network behind the firewall.²¹ When one of the large ISPs blocks the public IP address, it can be blocking the service of dozens of locations and hundreds or more users. With the growing need for enhanced security and the apparently impending exhaustion of IPv4 addresses, use of NAT and public IP address consolidation is likely to continue to increase, and the damage wreaked by indiscriminate blocking will mount.

To make matters worse, in PAETEC’s experience, these large ISPs either cannot or do not target solely the identified IP address. Rather, they use a shotgun approach, blocking “blocks” of IP addresses. PAETEC finds that its innocent customers’ IP addresses are frequently blocked by large broadband Internet access providers engaged in such practices, and its network operations personnel often have to contact such providers repeatedly to get them to unblock the incorrectly affected IP addresses. Unfortunately, PAETEC and its innocent end user customers

²¹ See http://en.wikipedia.org/wiki/Network_address_translation.

suffer from these large providers' indiscriminate network management practices, and the harm to PAETEC is magnified because its customers often blame PAETEC for their loss of full Internet connectivity. Whether or not providers engage in this practice deliberately to harm competitors or negligently because they are incompetent, such blocking should be identified by the Commission as an example of an unreasonable network management practice.

If ISPs are going to continue to use blocking, it should be unreasonable for them to block an off-network IP address without notifying the network operator to which that address is registered and giving that operator an opportunity to resolve the problem or to determine whether the IP address can be blocked without collateral damage to innocent customers. Blocking should be unreasonable in a situation where the home network operator has investigated and determined that it cannot occur without causing such collateral damage.

V. The Proposed Rules Will Encourage, Not Deter, Broadband Investment

A crucial question the Commission must consider in this proceeding is the effect of the proposed rules on future investment and jobs. In addressing this issue, the Commission should focus on the evidence in the record, not arguments based on self-serving economic assumptions.

The arguments that network neutrality rules will deter broadband internet access providers from investing in their networks remain largely theoretical in nature and are based on questionable assumptions.²² In contrast, there are numerous data points that demonstrate that, in the real world, operating under net neutrality rules has at worst no impact on broadband network

²² The December 21, 2009 update memo to the Berkman Center's draft study *Next Generation Connectivity: A review of broadband Internet transitions and policy from around the world* demonstrates that there is little solid evidence for the analogous theoretical argument that unbundling and open access rules deter broadband investment in the U.S. or elsewhere. See *id.* at pages 7-50, available at http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/Next_Generation_Connectivity_Update-Memo_Lit-Review_Dec21.pdf.

investment and more than likely has a positive effect on such investment. For example, PAETEC's experience over the decade of its existence provides strong evidence that the proposed rules would have little or no effect on broadband providers' investment and network deployment. Since their inceptions, PAETEC and its acquired entities have operated under business practices that generally conform to the proposed rules and they have invested over \$2 billion in the network during that period. PAETEC anticipates making additional significant network investment in the next several years to provide broadband services to its end users, provided that PAETEC continues to have access to economically priced last mile wireline facilities. That decision will be reinforced by the adoption of the proposed rules, because the rules will remove much of the potential uncertainty about whether the playing field on which PAETEC will be investing and competing will be level.

PAETEC's investment experience is the norm. It is consistent with the growth and practices of the universe of U.S. CLECs. The entire U.S. CLEC community has, like PAETEC, operated since the 1996 Telecommunications Act under network neutrality rules comparable to those proposed here. At the same time, CLECs have invested tens of billions of dollars in their narrowband and broadband networks.

There are similar data points in the wireless space. The clearest example, of course, is the Clearwire joint venture, which since its formation in 2007 has followed a business model in which its fixed wireless WiMax network is open, neutral and non-discriminatory.²³ Clearwire and its corporate strategic investors have committed billions of dollars to build out that broadband WiMax network.²⁴

²³ See, e.g., *See Sprint Nextel Corporation and Clearwire Corporation Application for Transfer of Control*, WC Docket No. 08-94, Memorandum Opinion and Order, (rel. Nov. 4, 2008) ("*Clearwire JV Order*"), para. 96.

²⁴ See *id.* at para. 10 and fn. 31 *infra*.

Those arguing that network neutrality rules will hinder network investment have generally focused on the theoretical effect on investment by the largest ILECs (e.g., AT&T, Verizon, and Qwest) and cable multiple system operators (“MSOs”) (e.g., Comcast and Time Warner Cable).²⁵ The Commission’s focus in this proceeding is correctly much broader than that, but in any event, PAETEC notes that the facts seem to belie the theoretical economic arguments. For example, one of the more vocal opponents of the proposed rules, AT&T, agreed as a condition of its merger with BellSouth to “maintain a neutral network and neutral routing,” which involved an “agreement not to provide or to sell to Internet content, application, or service providers, including those affiliated with AT&T/BellSouth, any service that privileges, degrades or prioritizes any packet transmitted over AT&T/BellSouth’s wireline broadband Internet access service based on its source, ownership or destination.”²⁶ AT&T was not deterred from making tremendous network investments in its wireline network while it was operating under these network neutrality constraints. AT&T’s network investment in 2007, while it was subject to the net neutrality merger conditions, equaled about \$17.7 billion and may have exceeded its investment in 2009, after the merger conditions had expired.²⁷ In any event, both AT&T’s overall network investment and its investment in its wireline network (the portion of the network

²⁵ See, e.g., Testimony of George S. Ford, Ph.D., Chief Economist, Phoenix Center for Advanced Legal & Economic Public Policy Studies, Before the Federal Communications Commission Open Meeting on Network Neutrality and Broadband Network Management, Stanford University, at 18–19 (Apr. 17, 2008) (discussing a study finding “that network neutrality regulation would reduce, not increase, network investment”); *Wall Street’s Perspectives on Telecommunications: Hearing Before the S. Committee on Commerce, Science, and Transportation*, 109th Cong. (Mar. 14, 2006), http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_senate_hearings&docid=f:29945.pdf; and Ted Hearn, *Analysts Question Bell Investments*, Multichannel News, Mar. 14, 2006, http://www.multichannel.com/article/122536-Analysts_Question_Bell_Investments.php.

²⁶ See *AT&T/BellSouth Merger Order*, 22 FCC Rcd at 5663, para. 2.

²⁷ See “AT&T to Invest More Than \$17 Billion in 2009 to Drive Economic Growth,” <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26597&mapcode> (“AT&T plans to invest \$17 billion to \$18 billion in 2009, in line with its 2007 capital expenditures of \$17.7 billion and expected to exceed the planned investment of any other U.S. telecom company.”).

subject to the non-discrimination requirement) grew during the period between 2005 and 2008, when the merger conditions were in effect.²⁸ According to Free Press, AT&T's wireline investment nearly doubled as a percentage of revenues over that period.²⁹

Another example is the strategic investors in the open Clearwire network, a group that includes the MSOs Time Warner Cable, Comcast and Brighthouse Networks. None of these MSOs have been subject to the network neutrality rules that apply to Title II common carriers. They have been among the most vocal opponents of net neutrality rules and proponents of the view that such rules will impede network investment. Yet they have still invested, collectively, over two billion dollars in Clearwire, and their most recent investment of approximately \$320 million came in November 2009, after this NPRM was issued by the Commission.³⁰ In this case, their actions speak far louder than their words.

In contrast, the failure to adopt the proposed rules will likely lead to reduced investment not only in network buildout by the non-RBOC and non-MSO broadband network owners such as PAETEC, but also in the truly innovative edge industries that have generated much of the growth in the U.S. economy over the last decade. If the proposed rules are not adopted, competitive ISPs and all manner of CASPs will endure a prolonged period of regulatory and business uncertainty. With their future costs and business prospects clouded because of the potential for anticompetitive conduct by the large network owners, they will find it difficult, if not impossible, to obtain the capital necessary to continue building out broadband networks and developing innovative applications and content to fill those networks. The effect of this

²⁸ S. Derick Tucker, Finding The Bottom Line: The Truth About Network Neutrality & Investment (October 2009) at 5, available at http://www.freepress.net/files/Finding_the_Bottom_Line_The_Truth_About_NN_and_Investment_0.pdf

²⁹ Id.

³⁰ See "Clearwire to Raise Over \$1.5 Billion to Continue National Expansion of 4G Mobile Internet Services," <http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1353599&highlight>.

constraint on access to investment capital may also leave these competitors unable to remain sufficiently competitive to create new jobs or even to maintain existing employee levels.

The Commission also asked whether managed or specialized services increase or reduce investment in broadband network deployment and upgrades.³¹ PAETEC believes, based on its own experience, that the ability to offer managed or specialized services increases an owner's incentive to invest in broadband network deployment and upgrades. In addition, the additional revenue stream from such services will enable network expansion that might otherwise not be financially supportable.

VI. The Transparency Rule is Crucial For Service Providers

Section 8.15 would require broadband service providers to “disclose such information concerning network management and other practices as is reasonably required for users and content, application, and service providers to enjoy the protections specified” in the remaining net neutrality rules. This transparency requirement is probably the key provision in the proposed rules for competing service providers such as PAETEC. PAETEC needs to know if a competitor with whom it is exchanging Internet access traffic – such as a Tier 1 Internet provider or an ILEC from whom it is purchasing interoffice transport or last mile connectivity - is slowing or blocking service or particular types of traffic to PAETEC's customers or their websites.

PAETEC presently has in place a variety of traffic exchange and access service agreements for its Internet traffic, ranging from standard Internet peering arrangements to transit arrangements under which it pays for Internet access on some routes and in some geographic areas. PAETEC's array of traffic arrangements is typical for competitive broadband service

³¹ *Open Network NPRM*, at para. 153.

providers, which have generally supplemented internal growth on a piecemeal basis through acquisitions and mergers.

The information currently available to PAETEC from its interconnecting service providers about their network management practices depends on the identity of the service provider and the nature of the governing agreement. In general, PAETEC has found that competitive broadband access providers and non-RBOC-affiliated Tier 1 and 2 Internet service providers are willing to provide adequate information about their traffic management practices, without regard to whether the traffic is exchanged on a peered or paid basis. This information is provided either in written form (in contracts or on the service provider's website) or informally when requested by PAETEC network operations personnel.

PAETEC's experience with RBOCs and certain other Tier 1 Internet access providers is substantially different. In general, they seem to have written policies setting out their traffic management practices and policies, but they do not willingly share this information with peering partners or wholesale purchasers of Internet access. As a result, PAETEC often has little or no idea how its and its customers' Internet traffic is being shaped or degraded as it traverses these networks.

Without adequate detailed information about a service provider's network management practices, interconnected service providers cannot adequately monitor the service provider's compliance with the nondiscrimination rule or the competitive options rule (Section 8.11). Therefore, Section 8.15 should require disclosure of network management information both to interconnected service providers whose traffic is affected by the practices at issue and directly to the Commission. At this time, there are no standard network management practices that should be excluded from such mandatory disclosure, although as some practices become more

standardized their disclosure may become unnecessary. The information identified above should be made available on the Commission's website, either publicly or via a password-protected portal accessible only to interconnected Internet access providers with peering or paid access agreements. This would facilitate monitoring by those providers, ensure that they are being treated in a nondiscriminatory manner vis a vis each other, and relieve the Commission from the burden of being the sole check on large providers' compliance with the rules. Such disclosure would certainly not unduly burden any broadband Internet access providers.

As proposed, the disclosure obligation of §8.15 is made "[s]ubject to reasonable network management . . ." The Commission should delete the introductory phrase "subject to reasonable network management" because it is unnecessary and provides large network owners with a potentially vast loophole to continue anti-competitive network practices by failing to disclose them. "Reasonable network management" is not and should not be a grounds for failure to notify other service providers of practices that block, delay or degrade services or traffic to or from their networks and customers.

PAETEC has generally not addressed questions raised in the *Open Internet NPRM* that relate solely or largely to consumer or retail issues. However, it does want to stress the importance to it and other wholesale Internet access purchasers of complete disclosure of network management practices applied by each service provider to its own traffic or that of its retail/end user customers. The need for this information about "vertical" discrimination was discussed in Section III above. Specifically, that information is necessary to determine whether competitors are receiving service that is equal in quality to (that is, is subject to no more privileging, degrading or prioritizing than) the services provided to the service provider, its affiliates or its retail customers. Without such disclosure, PAETEC and other competitive

broadband providers cannot determine whether the large service providers are fully complying with the nondiscrimination requirement.

As a parallel avenue to minimize net neutrality disputes, the Commission should consider encouraging the development of an industry standard service level agreement (“SLA”) for the public Internet. Such SLAs could be developed in a neutral forum involving engineers, network operations personnel, and business executives, such as the IETF. In PAETEC’s opinion, any entity that peers at a public Internet point should be subject to such an SLA.

PAETEC is examining its traffic exchange agreements to determine whether there are current examples of disclosure to PAETEC by ISPs that could serve as a useful model for any proposed disclosure requirements. If it identifies such provisions, it will provide them in its reply comments, subject of course to any applicable confidentiality or non-disclosure constraints.

VII. Managed or Specialized Services Should Not Be Regulated at This Time

A. PAETEC’s Managed Service Offering

The only managed or specialized service that PAETEC currently offers for sale or has plans to offer in the near future is a Multi-Protocol Label Switching (“MPLS”) Virtual Private Network (“VPN”) service with quality of service (“QOS”) guarantees. PAETEC's managed MPLS VPN service uses the latest MPLS technology to provide a user’s employees, business partners, and customers with secure access to the user’s network and data from virtually anywhere. This service offers an affordable way to build an enterprise network that replicates the performance, security, and reliability of a dedicated private-line network.

The MPLS VPN service assigns "private labels" to the user’s data, identifying its destination and allowing it to travel securely through PAETEC’s network. The service provides

end-to-end QoS at the customer edge and through the core. It allows users to prioritize - and allocate additional bandwidth to - time-sensitive applications like voice or streaming video over applications where latency is less of an issue, like e-mail. Software-defined virtual paths ensure the user's data is completely separate from that of other customers.

PAETEC's MPLS VPN service is provided over the same network as, and is offered to the same users who subscribe to, its broadband Internet access service. The MPLS VPN service differs from broadband Internet access in that it connects the user's selected sites or nodes with each other, but does not provide connectivity to the public Internet. PAETEC's MPLS VPN traffic never traverses the public Internet, and in most cases, the data remains entirely within PAETEC's private national network.³²

The MPLS VPN offering is marketed as a separate and distinct service.³³ However, customers who purchase it often purchase other complimentary PAETEC services, such as collocation, firewall services or broadband Internet access. While PAETEC does not offer MPLS VPN services as part of a pre-defined "bundle" of services, it does on occasion offer customers discounts to customers purchasing multiple services, including customers purchasing MPLS VPN services.

³² The exception occurs because PAETEC has a network-to-network interconnection ("NNI") agreement with one non-ILEC Tier 1 Internet provider whereby the provider and PAETEC honor each other's MPLS QoS labels and provide equivalent QoS to each other's VPN or public Internet traffic. In that situation, PAETEC can offer QoS guarantees to customers with off-net locations that are served by the other provider on the private portion of its network, rather than over its public Internet segment. While such an arrangement would be permissible even if the Commission were to prohibit payment for prioritization, PAETEC opposes such a prohibition because it would prevent PAETEC from exploring business arrangements that might involve payment to other carriers but would allow it to compete with larger ISPs.

³³ See <http://www.paetec.com/products-services/data/mpls-vpn/overview.htm>.

B. Managed Service Offerings Should Not Be Covered at This Time

The Commission should not address, or apply the net neutrality rules to, managed or specialized IP-based services at this time. In PAETEC's experience, network providers will provide sufficient capacity for robust broadband Internet access on shared networks that are also used for managed or specialized services. PAETEC believes that if rules providing for non-discrimination and adequate transparency at both the retail and wholesale levels are in place (as discussed in Sections III and VI), there is little risk that the growth of managed or specialized services might supplant or otherwise negatively affect the public Internet. Therefore, there is no need to impose net neutrality requirements on or otherwise regulate such managed services.

So long as the Commission's rules require transparency and non-discrimination, the allocation of available network bandwidth between managed or specialized services on one hand and broadband Internet access services on the other hand should not be a critical factor. The reason is that the real potential for competitive harm here, as in most scenarios involving net neutrality, comes from a small subset of network owners - the large RBOCs and cable MSOs. These entities, even if they are not Tier 1 Internet providers, are providers of Internet traffic transit services for other service providers and have substantial numbers of retail customers. If a true nondiscrimination rule is in place, and departure from the rule is relatively easily detectable by sophisticated competitors such as PAETEC, then in order to harm competitors the network owner would inevitably also have to degrade service to its own end user customers. This should lead to unacceptable customer losses – *so long as retail customers have the right to leave long term contracts for broadband Internet access in the event of material changes in a provider's network management practices or a clear service degradation.*³⁴

³⁴ The Commission could require that all large broadband Internet access providers' consumer contracts contain such an "out" clause, or it could codify such a right in these rules as an exercise of its "fresh look" powers. The

A continued hands-off policy by the Commission on regulation of managed services at this time will allow broadband service providers to develop new and innovative technologies and business models and will further the goals of innovation, investment, competition, and consumer choice. If future developments suggest that it is necessary to address managed services in order to safeguard the open Internet, both large broadband access providers' retail customers and competitors such as PAETEC will have incentives to bring this need to the Commission's attention, and the Commission will have wide latitude to initiate a new proceeding at the appropriate time.

VIII. The Rules Should Apply Equally to Wireline and Wireless Providers of Internet Access

PAETEC presently provides limited wireless Internet broadband access services. Through its subsidiary MPX, Inc., it provides last mile fixed wireless access to certain customers on its network. PAETEC provides the same suite of services to its fixed wireless customers as it does to its wireline customers. PAETEC anticipates expanding its fixed wireless service offerings in the near future.

PAETEC believes the six proposed rules (amended as suggested above) should be applied to all providers of broadband Internet access service, including those using broadband

Commission has the jurisdiction to "modify ... provisions of private contracts when necessary to serve the public interest." *Western Union Tel. Co. v. FCC*, 815 F.2d 1495, 1501 (D.C. Cir. 1987). The FCC has exercised this "fresh look" authority in certain circumstances in order to "promote consumer choice and eliminate barriers to competition in markets where long-term business arrangements have essentially 'locked up' service with a former monopoly telecommunications carrier." *Direct Access to the INTELSAT System Order, Report and Order*, 14 FCC Rcd 15703, ¶ 118 (1999); see also *In the Matter of Expanded Interconnection with Local Telephone Company Facilities*, 9 FCC Rcd 5154, ¶ 197-208 (1994). In applying the fresh look doctrine, the FCC has considered (1) whether or not the carrier has sufficient market power to create barriers to competition and (2) whether the contract can be nullified without harm to the public interest. *INTELSAT* at ¶ 119. Both criteria would be met here. Without a contractual "out" or an application of the fresh look policy, there could still be an incentive for large ISPs to meet the nondiscrimination requirement by degrading the Internet access of their consumer customers and wholesale competitors alike.

wireless technology to provide services. In particular, the rules should be applied immediately to fixed wireless services on the same basis as to wireline network providers. PAETEC does not believe there is any defensible justification for differentiating between wireline and fixed wireless networks for these purposes. It is telling that even AT&T, a strong opponent of net neutrality, saw no basis to differentiate between its wireline and fixed wireless networks for purposes of agreeing in the AT&T/BellSouth merger proceeding to net neutrality conditions that mirror many of those in these proposed rules.³⁵ With the improved technology and growth in fixed wireless bandwidth since that 2007 order, the case for treating wireline and fixed wireless networks in an equivalent manner is even stronger now.

The Commission has also asked for comment on the implications of these net neutrality rules for broadband Internet access over mobile wireless networks and how, in what time frames, and to what extent they can be fairly and appropriately implemented.³⁶ The short answer is that these principles can and should be applied to mobile wireless networks, just as any other networks. At the same time, it is indisputable that there will be significant differences between what constitutes reasonable network management on a wireline network and on the radio access portion of a mobile wireless network.

The main difference between mobile wireless and other broadband networks lies in the potential for congestion due to temporary fluctuations in customer numbers and usage in small geographic segments (cell tower coverage areas) of the radio access portion of the network.

These issues are inherent in any network where the majority of users are mobile, so the

³⁵ *AT&T/BellSouth Merger Order* 22 FCC Rcd 5662, 5814 (Appendix F, note 15) (“For purposes of this [net neutrality] commitment, AT&T/BellSouth’s wireline broadband Internet access service and its Wi-Max fixed wireless broadband Internet access service are, collectively, AT&T/BellSouth’s “wireline broadband Internet access service.”).

³⁶ *Open Internet NPRM*, at para. 157.

application of these principles to that access segment of mobile wireless networks can and should be tempered by a more fluid application of the concept of reasonable network management.³⁷ It is too early to establish anything other than extremely broad parameters for reasonable network management on the access portion of mobile broadband networks. Therefore, the Commission should establish such parameters, but its order should also indicate its expectation that mobile wireless network operators will follow the network neutrality rules to the extent commercially reasonable, and announce its intention to initiate an inquiry or rulemaking in 2012 (or at some suitable point where 3G *and* 4G networks are substantially rolled out), to explore whether additional clarity on network management for mobile wireless networks is necessary.

Conclusion

The Commission is to be congratulated for taking these steps to keep the Internet open by clarifying the obligations of broadband Internet access providers and the rights of their customers and competitors. The proposed rules should be adopted (subject to being amended as suggested above), and they should be applied to all providers of broadband Internet access service.

Respectfully submitted,

/s/

William Haas
Vice President, Public Policy and
Regulatory
PAETEC
1 Martha's Way
Hiawatha, Iowa 52233
Tel: 319-790-7295

Mark C. Del Bianco
Law Office of Mark C. Del Bianco
3929 Washington St.
Kensington, MD 20895
Tel: 301-933-7216

³⁷ In instances where wireless network operators share IP backhaul and backbone infrastructure with wireline affiliates, or provide Internet access or transit services on a wholesale basis to peers or paying wholesalers, the relevant networks and network facilities should be fully and immediately subject to all of the open Internet rules adopted by the Commission, as the factors unique to the radio access portions of mobile networks do not come into play.

mark@markdelbianco.com

William.Haas@PAETEC.com

Date: January 14, 2010

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 14th day of January, 2010, a true and correct copy of the foregoing Comments of PAETEC Holding Corp. was served electronically on the following:

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington D.C. 20554
(via ECFS filing)

Best Copy and Printing, Inc.
Portals II
445 12th Street, S.W.
Room CY-B402
Washington, DC 20554
fcc@bcpiweb.com

Competition Policy Division
Wireline Competition Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington D.C. 20554
cpdcopies@fcc.gov

/s/
Mark C. Del Bianco